



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,364	04/29/2004	James Wlos	4023	3363
31424	7590	04/06/2007		
BABCOCK IP, PLLC P.O.BOX 488 4934 WILDWOOD DRIVE BRIDGMAN, MI 49106			EXAMINER LEON, EDWIN A	
			ART UNIT	PAPER NUMBER
			2833	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/06/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/709,364	<b>Applicant(s)</b> WLOS ET AL.	
	<b>Examiner</b> Edwin A. León	<b>Art Unit</b> 2833	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 3/19/07.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed March 19, 2007 in which Claims 1 and 17-18 have been amended, has been placed of record in the file.
2. The amendment filed March 19, 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "via an inward projection of the spring fingers". Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the

Art Unit: 2833

invention. The limitation “via an inward projection of the spring fingers” is not described in the Specification or shown in the Drawings. For examination purposes this limitation will be given little patentable weight.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 9-10, 12-19 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arcykiewicz et al. (U.S. Patent No. 6,267,612) in view of Nelson (U.S. Patent No. 5,454,735). With regard to Claims 1-4 and 9, Arcykiewicz et al. (Figs. 1-3) discloses a connector interface for connecting to a cylindrical female connector body (23) having an outer diameter surface (Fig. 2) and a bore (Fig. 2) with an inner diameter surface (Fig. 2), comprising: a male connector body (20, 22) with a plurality of integral outer spring fingers (24) biased for an interference fit upon the outer diameter surface; a front end portion of a sleeve (20) of the male connector body adapted to insert within the bore.

However, Arcykiewicz et al. doesn't show a first spring located on an outer diameter of the sleeve, the first spring dimensioned for direct contact between the inner diameter surface of the bore and the outer diameter of the sleeve, the first spring

Art Unit: 2833

contacting the inner diameter surface upon mating of the male connector body with the female connector body, the first spring being located by a first groove formed in the outer diameter of the sleeve, the first spring being a canted coil spring, an inner conductor contact positioned coaxially within a sleeve bore by an insulator.

Nelson teaches (in Fig. 1) a similar connector having a first spring (11) located on an outer diameter of the sleeve (Fig. 1), the first spring dimensioned for direct contact between the inner diameter surface of the bore (Fig. 1) and the outer diameter of the sleeve, the first spring contacting the inner diameter surface upon mating of the male connector body (64) with the female connector body (13), the first spring being located by a first groove (80) formed in the outer diameter of the sleeve, the first spring being a canted coil spring (11), an inner conductor contact (86) positioned coaxially within a sleeve bore (68) by an insulator (insulation of 85).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the connector of Arcykiewicz et al. by including a first spring located on an outer diameter of the sleeve, the first spring dimensioned for direct contact between the inner diameter surface of the bore and the outer diameter of the sleeve, the first spring contacting the inner diameter surface upon mating of the male connector body with the female connector body, the first spring being located by a first groove formed in the outer diameter of the sleeve, the first spring being a canted coil spring, an inner conductor contact positioned coaxially within a sleeve bore by an insulator as taught in Nelson in order to prevent the male and female parts from

Art Unit: 2833

becoming separated unless the cables are subjected to substantial tensile forces (Nelson, Column 2, Lines 60-65).

Regarding Claim 9, the limitation "the first spring is dimensioned whereby the first spring elastically deforms between the sleeve and the inner diameter surface upon mating of the male connector body with the female connector body has been given little patentable weight since it has been held that the functional language "whereby" statement does not define any structure and accordingly can not serve to distinguish. *In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957).

With regard to Claim 18-19, Arcykiewicz et al. (Figs. 1-3) discloses a connector interface between a female connector (23) with an outer diameter surface (Fig. 2) and a bore (Fig. 2) with an inner diameter surface (Fig. 2) and a male connector (20, 22), comprising: a plurality of outer spring fingers (24) formed in a leading edge of a body (22) of the male connector; the plurality of outer spring fingers biased to engage an outer diameter surface of the female connector.

However, Arcykiewicz et al. doesn't show a first spring electrically coupled to the male connector; the first spring biased to directly contact the inner diameter surface of the bore, the first spring being located by a first groove formed in an outer diameter of a sleeve within the male connector.

Nelson teaches (in Fig. 1) a similar connector having a first spring (11) located on an outer diameter of the sleeve (Fig. 1), the first spring dimensioned for direct contact between the inner diameter surface of the bore (Fig. 1) and the outer diameter of the sleeve, the first spring contacting the inner diameter surface upon mating of the male



Art Unit: 2833

connector body (64) with the female connector body (13), the first spring being located by a first groove (80) formed in the outer diameter of the sleeve, the first spring being a canted coil spring (11).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the connector of Arcykiewicz et al. by including a first spring electrically coupled to the male connector; the first spring biased to directly contact the inner diameter surface of the bore, the first spring being located by a first groove formed in an outer diameter of a sleeve within the male connector as taught in Nelson in order to prevent the male and female parts from becoming separated unless the cables are subjected to substantial tensile forces (Nelson, Column 2, Lines 60-65).

With regard to Claims 10, 12-13 and 22-24, the combination of Arcykiewicz et al. and Nelson discloses the claimed invention as shown above except for a second groove located around the plurality of outer spring rings, a second spring positioned in the second groove biasing the plurality of outer spring fingers inward, the female connector has a third groove located on the inner diameter surface; the third groove adapted to align with the first groove when the male connector body is seated against the female connector and the third groove adapted to receive an inner diameter contacting portion of the first spring when the male connector body is seated against the female connector.

Still, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a second groove located around the plurality of outer spring rings, a second spring positioned in the second groove biasing the plurality of outer spring fingers inward, the female connector having a third groove located on the

Art Unit: 2833

inner diameter surface; the third groove adapted to align with the first groove when the male connector body is seated against the female connector and the third groove adapted to receive an inner diameter contacting portion of the first spring when the male connector body is seated against the female connector, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With regard to Claim 15, Arcykiewicz et al. (Figs. 1-3) discloses each of the plurality of outer spring fingers having an angled face (Fig. 1).

With regard to Claim 16, Arcykiewicz et al. (Figs. 1-3) discloses the sleeve is formed as a separate component press-fit into place within the male connector body.

With regard to Claim 17, Arcykiewicz et al. (Figs. 1-3) discloses the sleeve being press-fit within the male connector body up to an internally projecting shoulder (15) of the male connector body.

7. Claims 5-8 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arcykiewicz et al. (U.S. Patent No. 6,267,612) in view of Nelson (U.S. Patent No. 5,454,735) in further view of Plummer et al. (U.S. Patent No. 6,650,209). The combination of Arcykiewicz and Nelson discloses the claimed invention as shown above except for the first spring being a spring finger ring having a plurality of spring fingers projecting outward from a collar, a radius being formed in a leading edge of each spring finger, the collar being dimensioned for press-fit mounting to the outer diameter of the sleeve, the first spring being a ring having a plurality of deflectable protrusions.



Plummer et al. teaches a similar connector having a first spring (36) being a spring finger ring (Column 3, Lines 42-45) having a plurality of spring fingers (Fig. 7) projecting outward from a collar (flat part of 36 shown in Fig. 7), a radius being formed in a leading edge of each spring finger, the collar being dimensioned for press-fit mounting to the outer diameter of the sleeve (30), the first spring being a ring (Column 3, Lines 42-45) having a plurality of deflectable protrusions (Fig. 7).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the connector of Arcykiewicz and Nelson by including the a first spring being a spring finger ring having a plurality of spring fingers projecting outward from a collar, a radius being formed in a leading edge of each spring finger, the collar being dimensioned for press-fit mounting to the outer diameter of the sleeve, the first spring being a ring having a plurality of deflectable protrusions as taught in Plummer et al. in order to provide suitable contact force providing a desired electrical connection between the parts of the connector (Plummer et al., Column 4, Lines 20-24).

8. Claims 11 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arcykiewicz et al. (U.S. Patent No. 6,267,612) in view of Nelson (U.S. Patent No. 5,454,735) in further view of Maury (U.S. Patent No. 6,210,221). The combination of Arcykiewicz and Nelson discloses the claimed invention as shown above except for the female connector being one of an SMA and a Type N connector.

Maury (Figs. 3-4) discloses a similar connector having a second groove (where 20 is located) located around a plurality of outer spring fingers (15); a second spring

Art Unit: 2833

(20) positioned in the second groove biasing the plurality of outer spring fingers inward and the female connector being one of an SMA (Column 1, Lines 42-46) and a Type N connector (Column 1, Lines 54-58).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the interface of Hall et al. by the female connector being one of an SMA and a Type N connector as taught in Maury in order to make the connector more versatile.

### ***Response to Arguments***

9. Applicant's arguments filed March 19, 2007 have been fully considered but they are not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to Applicant's argument regarding Claims 1 and 17-18 that the Arcykiewicz reference doesn't show an inward projection of the spring fingers, Applicant is reminded that the added material which is not supported by the original disclosure. Therefore, this limitation has been given little patentable weight.

In response to Applicant's argument regarding Claims 1 and 17-18 that the Arcykiewicz reference doesn't show the body and the spring fingers being integral,

Applicant's attention is directed to Fig. 2 in which Arcykiewicz clearly discloses a male connector body (20, 22) with a plurality of integral spring fingers (24). Applicant is reminded that the Examiner defined the body as being the combination of 20 and 22. Therefore, since spring fingers (24) are integral with part 22 of the body, it is the Examiner's opinion that the combination of Arcykiewicz and Nelson would meet Applicant's claims in their broadest interpretation.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL** necessitated by amendment. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

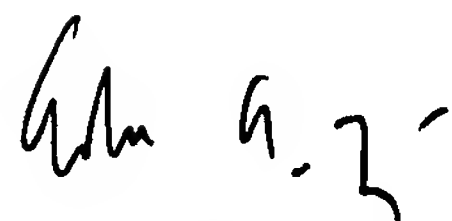
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin A. León whose telephone number is (571) 272-2008. The examiner can normally be reached on Monday - Friday 10:00-6:30.

Art Unit: 2833

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571-272-2800, extension 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Edwin A. Leon  
AU 2833

EAL  
March 26, 2007



TRUCT. NGUYEN  
PRIMARY EXAMINER